

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A vaccine composition for vaccinating dogs comprising ~~any one or more of:~~

(a) ~~an agent capable of raising an immune response against *Streptococcus equi sub species zooepidemicus* (*S. zooepidemicus*) in a dog;~~

(b) an agent capable of raising an immune response against *Mycoplasma cynos* (*M. cynos*) in a dog; ~~and~~

(c) ~~an agent capable of raising an immune response against a *Chlamydomphila* in a dog.~~

2. (Currently amended) A The vaccine composition according to Claim 1 further comprising ~~wherein the agent capable of raising an immune response against *S. zooepidemicus* in a dog comprises~~ inactivated or attenuated *S. zooepidemicus*, or an immunogenic fragment of *S. zooepidemicus* or a derivative thereof, or a nucleic acid encoding said fraction or said derivative.

3. (Currently amended) A The vaccine composition according to Claim 1 wherein the agent capable of raising an immune response against *M. cynos* in a dog comprises inactivated or attenuated *M. cynos*, ~~or an immunogenic fragment of *M. cynos* or a derivative thereof, or a nucleic acid encoding said fraction or said derivative.~~

4. (Currently amended) A The vaccine composition according to Claim 1 ~~wherein the agent capable of raising an immune response in a dog against a *Chlamydomphila* comprises~~ further comprising inactivated or attenuated *Chlamydomphila abortus*, or an immunogenic fragment of *Chlamydomphila abortus* or a derivative thereof, or a nucleic acid encoding said fraction or said derivative.

5. (Currently amended) A The vaccine composition according to Claim 1 ~~wherein the agent capable of raising an immune response in a dog against a *Chlamydomphila* comprises~~ further comprising inactivated or attenuated *Chlamydomphila psittaci*, or an immunogenic fragment of *Chlamydomphila psittaci* or a derivative thereof, or a nucleic acid encoding said fraction or said derivative.

6. (Currently amended) A The vaccine composition according to Claim 1 ~~wherein the agent capable of raising an immune response in a dog against a *Chlamydomphila* comprises~~ further comprising inactivated or attenuated *Chlamydomphila felis*, or an immunogenic

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fragment of *Chlamydophila felis* or a derivative thereof, or a nucleic acid encoding said fraction or said derivative.

7. **(Currently amended)** A The vaccine composition according to Claim 1 ~~wherein the agent capable of raising an immune response in a dog against a *Chlamydophila* comprises~~ further comprising inactivated or attenuated *Chlamydia muridarum*, *Chlamydia pecorum*, *Chlamydia pneumoniae*, *Chlamydia suis* or *Chlamydia trachomatis*, or an immunogenic fragment thereof, or a derivative thereof, or a nucleic acid encoding said fraction or said derivative.

8. **(Previously presented)** A composition comprising a vaccine composition according to Claim 1 and a pharmaceutically acceptable carrier, diluent or adjuvant.

9. **(Currently amended)** A The vaccine composition according to Claim 1 further comprising any one or more of:

(d) an agent capable of raising an immune response in a dog against canine respiratory coronavirus (CRCV);

(e) an agent capable of raising an immune response in a dog against canine parainfluenzavirus (CPIV);

(f) an agent capable of raising an immune response in a dog against canine adenovirus type 2 (CAV-2);

(g) an agent capable of raising an immune response in a dog against canine herpesvirus (CHV); and

(h) an agent capable of raising an immune response in a dog against *Bordetella bronchiseptica* (*B. bronchiseptica*).

10. **(Original)** A vaccine composition according to Claim 9 wherein the agent capable of raising an immune response in a dog against CRCV comprises inactivated or attenuated CRCV, or an immunogenic fragment thereof, or a nucleic acid encoding said immunogenic fraction.

11. **(Previously presented)** A vaccine composition according to Claim 10 wherein the immunogenic fragment of CRCV comprises a Spike protein or a hemagglutinin-esterase (HE) protein, or an immunogenic portion of the Spike or HE protein.

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12. **(Previously presented)** A vaccine composition according to Claim 9 wherein the agent capable of raising an immune response in a dog against CPIV comprises inactivated or attenuated CPIV, or an immunogenic fragment thereof, or a nucleic acid encoding said immunogenic fraction.

13. **(Previously presented)** A vaccine composition according to Claim 9 wherein the agent capable of raising an immune response in a dog against CAV-2 comprises inactivated or attenuated CAV-2, or an immunogenic fragment thereof, or a nucleic acid encoding said immunogenic fraction.

14. **(Previously presented)** A vaccine composition according to Claim 9 wherein the agent capable of raising an immune response in a dog against CHV comprises inactivated or attenuated CHV, or an immunogenic fragment thereof, or a nucleic acid encoding said immunogenic fraction.

15. **(Previously presented)** A vaccine composition according to Claim 9 wherein the agent capable of raising an immune response in a dog against *B. bronchiseptica* comprises inactivated or attenuated *B. bronchiseptica*, or an immunogenic fragment thereof, or a nucleic acid encoding said immunogenic fraction.

16. **(Previously presented)** A method of vaccinating a dog against canine infectious respiratory disease (CIRD) comprising administering to the dog a vaccine composition according to Claim 1.

17. **(Previously presented)** A method of treating CIRD in a dog comprising administering to the dog a vaccine composition according to Claim 1.

18. **(Currently amended and withdrawn)** A method of stimulating an immune response against ~~any one or more of *S. zooepidemicus*, *M. cynos* and a *Chlamydophila* in a dog,~~ the method comprising administering to the dog ~~any one or more of:~~

~~(a) — an agent capable of raising an immune response against *S. zooepidemicus* in a dog;~~

~~(b) an agent capable of raising an immune response against *M. cynos* in a dog;~~
and

~~(c) — an agent capable of raising an immune response against a *Chlamydophila* in a dog.~~

19. **(Currently amended and withdrawn)** A The method according to Claim 18 further comprising administering to the dog any one or more of:

an agent capable of raising an immune response against *S. zooepidemicus* in a dog;

an agent capable of raising an immune response against a *Chlamydomophila* in a dog

(d) an agent capable of raising an immune response in a dog against CRCV;

(e) an agent capable of raising an immune response in a dog against CPIV;

(f) an agent capable of raising an immune response in a dog against CAV-2;

(g) an agent capable of raising an immune response in a dog against CHV; and

(h) an agent capable of raising an immune response in a dog against *B.*

bronchiseptica.

20. **(Cancelled)**

21. **(Cancelled)**

22. **(Cancelled)**

23. **(Cancelled)**

24. **(Cancelled)**

25. **(Cancelled)**

26. **(Cancelled)**

27. **(Withdrawn)** A kit of parts for a vaccine composition, comprising any one or more of:

(a) an agent capable of raising an immune response against *S. zooepidemicus* in a dog;

(b) an agent capable of raising an immune response against *M. cynos* in a dog; and

(c) an agent capable of raising an immune response against a *Chlamydomophila* in a dog,

and a pharmaceutically acceptable carrier, diluent or adjuvant.

28. **(Withdrawn)** The kit according to Claim 27 further comprising any one or more of:

(d) an agent capable of raising an immune response in a dog against CRCV;

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- (e) an agent capable of raising an immune response in a dog against CPIV;
- (f) an agent capable of raising an immune response in a dog against CAV-2;
- (g) an agent capable of raising an immune response in a dog against CHV; and
- (h) an agent capable of raising an immune response in a dog against *B. bronchiseptica*.

29. **(Withdrawn)** A method of making an antibody that specifically binds to any one or more of *S. zooepidemicus*, *M. cynos* or a *Chlamydomphila* comprising raising an immune response to any one or more of *S. zooepidemicus*, *M. cynos* or a *Chlamydomphila*, or an immunogenic fragment thereof in an animal, and preparing an antibody from the animal or from an immortal cell derived therefrom.

30. **(Withdrawn)** A method of obtaining an antibody that specifically binds to any one or more of *S. zooepidemicus*, *M. cynos* or a *Chlamydomphila* comprising selecting an antibody from an antibody-display library using any one or more of *S. zooepidemicus*, *M. cynos* or a *Chlamydomphila*, or an immunogenic fragment thereof.

31. **(Withdrawn)** An antibody that specifically binds to *S. zooepidemicus*, *M. cynos* or a *Chlamydomphila*.

32. **(Withdrawn)** A method of passively immunising a dog against CIRD comprising administering to the dog one or more antibodies that specifically bind to one or more of *S. zooepidemicus*, *M. cynos*, and a *Chlamydomphila*.

33. **(Withdrawn)** A method of treating CIRD in a dog comprising administering to the dog one or more antibodies that specifically bind to one or more of *S. zooepidemicus*, *M. cynos*, and a *Chlamydomphila*.

34. **(Withdrawn)** A method according to Claim 32 further comprising administering to the dog antibodies that specifically bind to any one or more of CRCV, CPIV, CAV-2, CHV, and *B. bronchiseptica*.

35. **(Cancelled)**

36. **(Cancelled)**

37. **(Cancelled)**

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38. **(Withdrawn)** A composition comprising any two or more of an antibody that specifically binds to *S. zooepidemicus*, an antibody that specifically binds to *M. cynos*, and an antibody that specifically binds to a *Chlamydophila*.

39. **(Withdrawn)** A composition according to Claim 38 further comprising antibodies that specifically bind to any one or more of CRCV, CPIV, CAV-2, CHV, and *B. bronchiseptica*.

40. **(Original)** A vaccine composition comprising:

(b) an agent capable of raising an immune response against *M. cynos* in a dog;
and

(d) an agent capable of raising an immune response against CRCV in a dog.

41. **(Original)** The vaccine composition according to Claim 40 further comprising any one or more of:

(c) an agent capable of raising an immune response against a *Chlamydophila* in a dog;

(e) an agent capable of raising an immune response in a dog against CPIV;

(f) an agent capable of raising an immune response in a dog against CAV-2;

(g) an agent capable of raising an immune response against CHV in a dog; and

(h) an agent capable of raising an immune response in a dog against *B. bronchiseptica*.

42. **(Original)** The vaccine composition according to Claim 40 further comprising:

(a) an agent capable of raising an immune response against *S. zooepidemicus* in a dog.

43. **(Withdrawn)** A method of determining whether a dog has been exposed to a *Chlamydophila* species associated with CIRD, the method comprising:

(a) obtaining a suitable sample from the dog; and

(b) identifying a *Chlamydophila* species associated with CIRD, or an antibody there to, in the sample.

44. **(Withdrawn)** A method according to Claim 43 wherein the *Chlamydophila* species associated with CIRD has 23S rRNA comprising the sequence (when shown as RNA) of any of SEQ ID No: 1 to 8.

45. **(Withdrawn)** A method of determining whether a dog has or is susceptible to CIRD, the method comprising:

- (a) obtaining a suitable sample from the dog; and
- (b) identifying any one or more of *S. zooepidemicus* or *M. cynos* or *Chlamydophila*, or an antibody to any of these, in the sample.

46. **(Withdrawn)** A method according to Claim 45 wherein the *S. zooepidemicus* or *M. cynos* or *Chlamydophila* is identified using an antibody.

47. **(Withdrawn)** A method according to Claim 45 wherein the *S. zooepidemicus* or *M. cynos* or *Chlamydophila* is identified using a nucleic acid.

48. **(Withdrawn)** A method according to Claim 45 wherein the anti-*S. zooepidemicus* antibody is detected using a *S. zooepidemicus* or an antigenic portion thereof.

49. **(Withdrawn)** A method according to Claim 45 wherein the anti-*M. cynos* antibody is detected using a *M. cynos* or an antigenic portion thereof.

50. **(Withdrawn)** A method according to Claim 45 wherein the anti-*Chlamydophila* antibody is detected using a *Chlamydophila* or an antigenic portion thereof.

51. **(Withdrawn)** A method according to Claim 43 wherein the sample is an antibody-containing sample.

52. **(Withdrawn)** An immunosorbent assay for detecting antibodies associated with CIRD, the assay comprising:

a solid phase coated with any one or more of (a) an agent capable of raising an immune response against *S. zooepidemicus* in a dog; (b) an agent capable of raising an immune response against *M. cynos* in a dog; and (c) an agent capable of raising an immune response against a *Chlamydophila* in a dog;

and a detectable label conjugate which will bind to the antibodies bound to the solid phase.

53. **(Withdrawn)** An immunosorbent assay according to Claim 52 wherein the solid phase contains any two or all three of (a), (b) and (c).

54. **(Withdrawn)** A solid phase substrate coated with any one or two or all three of (a), (b) and (c) as defined in Claim 52.

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55. **(Withdrawn)** A method according to Claim 33 further comprising administering to the dog antibodies that specifically bind to any one or more of CRCV, CPIV, CAV-2, CHV, and *B. bronchiseptica*.

56. **(Withdrawn)** The method of Claim 51, wherein the antibody-containing sample is selected from the group consisting of serum, saliva, tracheal wash and branchiolar lavage.